



Epidemiologic Notes & Reports

Volume 32 Number 9

September 1997

Childhood Immunizations

Commissioner for Public Health Rice C. Leach, M.D. asked that Dr. Walter Orenstein's remarks be forwarded to the state health community. Dr. Orenstein is an Assistant Surgeon General in the United States Public Health Service and is Director of the CDC Immunization Program. He was in Kentucky to promote public-private partnerships as a way to "Give them their shots while they are tots." Humana, RiteAid stores, and the Lexington and Louisville Kiwanis Clubs joined the Louisville and Lexington health departments in this initiative.

Dr. Leach notes that this is an especially timely subject since our state's percentage of children under three with on time immunization for diphtheria, tetanus, pertussis, polio, mumps, measles, and rubella has dropped since 1994. In 1994, we were ranked 5th nationally with 84% of children receiving immunizations on time. In 1996, we are 22nd with 79% immunized on time. We are still above average but not by much. Boards of health, health departments, and private providers have the means to do the right thing for our children and, in so doing, regain the high ground in the national ranking.

The following are remarks taken from comments made by ASG-Walter Orenstein on July 21, 1997.

1. Immunization represents one of the most cost-effective preventive measures we have. All vaccines routinely recommended for children save society dollars for every dollar spent, ranging from \$29 saved for every dollar invested in DTP vaccination to \$2 saved for every dollar invested in hepatitis B immunization.

2. Immunization is important for all: Pockets of under-immunized children anywhere can serve as a reservoir of infection for other communities even those which are well immunized. This is because some children are too young to be vaccinated even though they are susceptible to disease. They are protected indirectly by high immunization levels because they're not exposed to disease. This so-called "herd immunity", also protects children with legitimate contraindication to immunization such as a child with leukemia who cannot get measles vaccine. Vaccinated children are protected by herd immunity because, even though vaccines are highly effective, a few percent of vaccinated children are not protected due to vaccine failure. We usually do not know who these children are, but they are

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protected indirectly when not exposed because of high immunity levels in the community.

3. Currently, children should be vaccinated against 10 diseases: polio, diphtheria, pertussis, tetanus or measles, mumps, rubella, chickenpox, *Haemophilus influenzae* type B (Hib) (once the most common cause of bacterial meningitis in children) and hepatitis B. Hepatitis B is our first anti-cancer vaccine. Hepatitis B induced liver cancer causes about 1000 deaths annually in the United States.

4. We can prevent more diseases than ever and the promise of biotechnology is great. In the future are new vaccines to prevent a) much of the up to 7 million cases of otitis media caused by *Streptococcus pneumoniae*; b) a vaccine to prevent rotavirus diarrhea which currently causes more than 500,000 visits to doctors annually for diarrhea, more than 50,000 hospitalizations, and about 20 deaths annually; and c) vaccines against meningococcal disease, which accounts for about 2600 cases annually, 13% of which result in death.

5. New combination vaccines are on the way with some giving the ability to prevent as many as seven diseases with a single product.

6. But in the meantime, we must deliver the 16 to 20 doses of vaccines to protect our children against 10 diseases. Of these, about 75% , or 12-16 doses are needed by the second birthday.

(see page 3 - Childhood Immunizations)

Kentucky Influenza 1997-1998

This article was adapted from Influenza Sentinel Physician Surveillance Pilot Project material from the Centers for Disease Control and Prevention.

The prospect of pandemic influenza (flu) has scientists stacking up the public health equivalent of sandbags in anticipation of the coming flood. This century flu pandemics have occurred in cycles -- 1946, 1957, 1968 and 1977. Some think we're overdue for the next one.

Viruses that cause flu are found in waterfowl around the globe. The birds don't get sick, but often transmit the virus to mammals. Humans don't have the receptors to be infected by avian viruses, but pigs do. Pigs can become infected with avian and human viruses. They are the mixing vessel. The flu pandemics this century are believed to have originated in China. The reason is not clear, but in rural China humans commonly live in close proximity to ducks and pigs.

The flu may seem to be a rather mundane illness. Actually, in most years it is, in effect, a genetically new disease. The influenza virus, through biochemical mechanisms called genetic "drift" and "shift" continually puts on a new protein coat that allows it to elude last year's antibodies. When "drift" occurs, the host's antibodies may partially recognize the virus and provide some protection. When an actual "shift" occurs, the coat is unrecognizable, and old antibodies are useless. During the 1996-97 season, Kentucky's Division of Epidemiology received reports of 23 positive flu isolates. Of these, only one was a type B virus. All others (22/23, 95.65%) were type A viruses. Fifteen of the isolates were from females; eight were from males. Ages ranged from four months to 72 years.

This year the influenza vaccine contains these killed viruses:
 A/Johannesburg/82/96 (H1N1)
 A/Nanchang/933/95 (H3N2)
 B/Harbin/07/94

WHO SHOULD GET INFLUENZA VACCINE?

Group 1

Those people who are at risk for getting a serious case of influenza or a complication should get the vaccine.

- All people 65 years of age or older;

- Residents of long term care facilities housing persons of any age with chronic medical conditions;
- Any child or adult, including a pregnant woman, who has a serious long-term health problem with: heart disease; anemia; metabolic diseases such as diabetes; asthma; lung disease or kidney disease; AND in the past year had to see a doctor regularly or be admitted to a hospital;
- People who are less able to fight infection because of: a disease they were born with; infection with Human Immunodeficiency Virus (HIV), the virus that causes AIDS; treatment with drugs such as long-term steroids; cancer treatment with x-rays or drugs;
- Children and teenagers 6 months to 18 years of age on long-term aspirin treatment, who, if they catch influenza, could develop Reye's syndrome which causes coma, liver damage, and death; and
- Women who will be more than 3 months pregnant during the influenza season.

Group 2

Anyone who has close contact with people who are at risk for getting a serious case of influenza.

- Anyone --including children-- who live with people in high risk groups (Group #1 above);
- Health care workers (doctors, nurses, hospital and medical office staff);
- Personnel of nursing homes or chronic case facilities; and
- People who provide home-care to high risk persons, such as visiting nurses and volunteers.

Group 3

In addition, influenza vaccine may be given to:

- Persons who provide important community services;
- People in schools and colleges, to prevent outbreaks;
- People going to the tropics any time of year or to countries south of the equator between April and September; and
- Anyone who wants to reduce their chance of catching influenza.

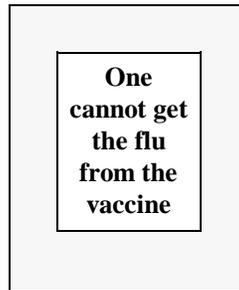
When should one get influenza vaccine?

People who need the vaccine should get it every year. The vaccine begins to protect after 1 to 2 weeks and protection may last up to one year. **Influenza is most**

common in the U.S. from December to April, so it is best to get the vaccine in organized campaigns between mid-October and mid-November. People 9 years and older need one shot each influenza season. Children less than 9 years old may need a second shot after one month. Influenza vaccine can be given at the same time as any other vaccines, including pneumococcal vaccine. It should be given in a different limb, however.

Influenza in Kentucky

For the coming 1997-98 flu season, approximately 25 states, including Kentucky, will participate in a pilot project to substantially increase the number of U.S. sentinel physicians. This increase will provide more accurate and representative data on influenza in each state and region, as well as for the entire country. One of the reasons for these changes is to



help the U.S. be better prepared for the next influenza pandemic. Better data will help the Centers for Disease Control and Prevention to more accurately follow each season's flu epidemic.

The reports and the cultures that providers submit to the laboratory are a vital part of surveillance. The isolates obtained from the cultures provide important information about genetic changes in the virus and are often the earliest indication that flu is in an area.

How can I get more information?

Call your local or State Health Department, Division of Epidemiology, Surveillance & Investigations Branch at 502-564-3418 or contact the Centers for Disease Control and Prevention (CDC) at 800-232-7468; or visit the CDC website at <http://www.cdc.gov/>.

Childhood Immunizations (continued from page 1)

7. We should all be proud. Coverage is at record high levels; disease incidence is at record low levels. Indigenous transmission of measles within the United States has been interrupted several times since 1993.

8. These accomplishments were achieved by public - and private- sector collaborations, immunization coalitions and other forms of community involvement:

- ◆ Health Departments
- ◆ Provider Organizations
- ◆ Volunteers
- ◆ Civic and Community leaders and so many more.

9. The accomplishments were achieved during a very difficult time period:

- ◆ Increase in number of injections
- ◆ Many changes to the immunization schedule

10. The accomplishments were achieved during a time that the health care system for children was (and is) undergoing significant change:

- ◆ Managed care is assuming responsibility for more children. Its orientation toward prevention is a great opportunity to protect more children.

11. But the job is not finished:

- ◆ One million two-year-olds are missing at least one recommended vaccination.
- ◆ There is a 10-percentage point coverage gap between impoverished and better-off children.
- ◆ 11,000 children are born each day and start at an immunization coverage of zero percent — the system is not completely built for them, yet.

- ◆ Records are scattered among providers (30% of children have >one provider).

12. Why are children inadequately immunized today?

- a) Many parents do not know that their children require so many doses of vaccines to be fully vaccinated. Parents consistently overestimate the immunization coverage of their children.
- b) Many doctors and nurses overestimate the immunization coverage of the patients they serve. Opportunities to vaccinate are being missed. Most practices do not have reminder systems to help parents remember when immunizations are due or overdue.

13. What can be done?

- a) Parents must be educated about the importance of early childhood immunization and to take more responsibility. They should be encouraged to carry an immunization record to every health care encounter and to ask their doctor, nurse or other provider whether their child is up-to-date.
- b) Doctors and nurses should be encouraged to check the immunization status of their patients at every encounter and to assess the overall coverage of their patients to determine whether they need to change their immunization practices such as providing immunizations during acute care visits. Study after study has shown that the actual levels of coverage are usually substantially lower than the doctor or nurse thinks they are.

14. What will the immunization delivery system of the future look like when finished?

- ◆ A medical home for every child
- ◆ A meaningful provider-patient link will exist:

Childhood Immunizations (continued from page 1)

This **link** will be established before birth, or at the latest, before leaving a birthing hospital.

The **link** implies responsibility and accountability of both parents and doctors and nurses.

The **link** is known to responsible public health authorities so they can determine which communities are most under-vaccinated and in need of special efforts.

The **link** implies hand-off of information when a patient changes providers.

- ◆ There is no cost barrier to routine immunizations.
- ◆ A computerized information system ties the system together, some of the functions being:
 - Delivering education about vaccination scheduled changes.
 - Operating reminder and recall systems.
 - Providing community and provider coverage estimates.

15. How can this be accomplished?

- ◆ Public-private partnerships (68% private delivery in 1994; figure likely to increase).
- ◆ Managed care
- ◆ Community education
- ◆ Immunization information systems.

CDC Seeks Patients for Southern Tick-Associated Rash Illness Study

Lyme disease is due to infection with the tick-transmitted spirochete *Borrelia burgdorferi*. In the United States, the regions with the highest Lyme disease incidences are the Northeast, Upper Midwest, and Pacific Coast. The characteristic annular, macular, erythematous skin lesion of early Lyme disease, erythema migrans (EM), occurs at the site of the infected tick bite, has an incubation period of 3-31 days, and typically expands over time, sometimes to a diameter of 30 cm.

Tick bite-associated EM-like lesions also occur in the southern United States, but the etiology of such lesions is unknown. Some appear to be associated with bites of the Lone Star tick, *Amblyomma americanum*, which is the most common human-biting tick in the region. Studies to date have consistently failed to etiologically implicate *B. burgdorferi* in these cases (ref. Campbell et al. *J Infect Dis* 1995; 172:470-80, and unpublished data). Possible etiologies include a novel tick-transmitted spirochete (ref. Barbour et al. *J Infect Dis* 1996; 173: 403-9) or other infectious agent.

To determine the etiology and epidemiology of tick-associated annular skin lesions in the South, scientists at the Centers for Disease Control and Prevention (CDC) are seeking cooperation from clinicians in the South to collect appropriate clinical material for research purposes. Patients with tick bite-associated EM-like lesions would be asked to sign an informal consent form and to provide skin biopsy, blood, and urine specimens to be tested using experimental laboratory tests. Specimens may not be tested immediately but may instead be stored in an appropriate fashion to allow for future testing of various etiologic hypotheses, once test methods are available. If you are a clinician practicing in a southern state and wish to enroll patients in this study please contact one of the following scientists at the CDC: Dr. Kathy Orloski 970-221-6471, Dr. Barbara Johnson 970-221-6463, or Dr. Ned Hayes 970-221-6474.

The Division of Epidemiology of the Kentucky Department for Public Health encourages participation in this study. To date there have been no isolations of *B. burgdorferi* from Kentucky patients, to our knowledge. This possibility of direct arrangement with CDC scientists will replace our previous offer to supply the special culture kits.

Farewell Dr. Razak . . .

We wish a fond farewell to Dr. Myat Htoo Razak, Epidemic Intelligence Service Officer from the Centers for Disease Control and Prevention. He completed his two year assignment with us on June 30. One of the highlights of his stay was the investigation of an occupational outbreak of histoplasmosis in eastern Kentucky. He also assisted in the investigation of other reported outbreaks. Dr. Razak has accepted a faculty position at Johns Hopkins University in Baltimore, Maryland to teach and do research on HIV/AIDS in Asia. Myat, your Kentucky friends and co-workers wish you the best!

KENTUCKY EPIDEMIOLOGIC NOTES & REPORTS

Printed With State Funds

by the

COMMONWEALTH OF KENTUCKY
CABINET FOR HEALTH SERVICES
DEPARTMENT FOR PUBLIC HEALTH
275 EAST MAIN STREET

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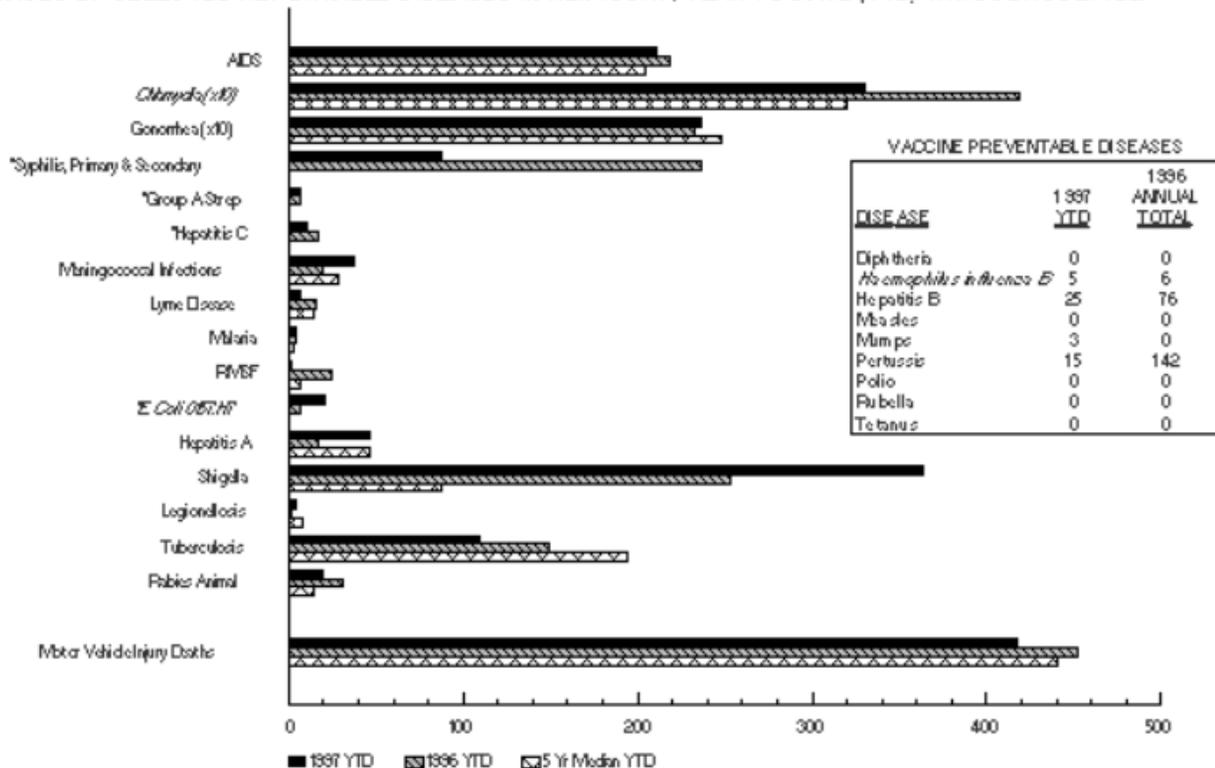
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Urgent Reporting of Reportable Diseases

The new Kentucky Disease Surveillance Administrative Regulation (902 KAR 2:020) requires that cases of certain diseases (listed on the Kentucky Reportable Disease Form, EPID-200, Revised June 1997) be reported by telephone to the local health department or the Kentucky Department for Public Health within 24 hours. Since local and state health departments are closed during weekends and many holidays, the Division of Epidemiology has installed an answering device for this purpose which will be in operation nights, weekends, and holidays. All necessary case information may be recorded on the answering machine, but if confidentiality is a concern, record the name and phone number of a contact person and the disease being reported. A staff member will check for messages daily, and call back on the next work day to obtain additional information as needed.

If there is an immediate request for consultation either on a weekend or holiday, the answering machine will instruct you on how to contact the **on call** medical consultant for that day. **The telephone number to be used at nights or on weekends and holidays is (502) 564-4679.** Should any problems occur, we appreciate your patience during the initial set-up of this system. You may call the Surveillance and Investigations Branch of the Division of Epidemiology during usual working hours at (502)564-3418 if you have

CASES OF SELECTED REPORTABLE DISEASES IN KENTUCKY, YEAR TO DATE (YTD) THROUGH JULY 1997



*Historical data are not available.

Disease numbers reflect only those cases which meet the surveillance definition.

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